

Canadian Utility Wood Pellet Exports Are Shifting from Europe to Asia

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Canada is the third largest global exporter of utility wood pellets¹ (wood pellets), a biomass product burned for commercial scale electricity generation or cogeneration. Between 2012 (the first calendar year wood pellets were assigned their own HS subheading) and 2022, Canada's wood pellet exports more than doubled to 3.5 million metric tons (mt). This growth was driven by both supply (Canada's immense forested land and extensive timber harvesting) and demand (wood pellet combustion incentivization policies of destination countries) factors. In 2012, most Canadian wood pellet exports went to the European Union, especially to the then-member, the United Kingdom. Recently, however, Canadian wood pellet exports have shifted to Japan and South Korea. Intriguingly, ownership of Canadian wood pellet production and exports is increasingly dominated not by Canadian-headquartered companies, but by Drax, a UK utility.

Canada's forest product production

Forty percent of Canada's land area—360 million hectares—is covered by forests, which equates to nine percent of all globally forested land. Most of Canada's forested land (90 percent) is publicly owned and managed by federal, provincial, and territorial governments. Under Canadian law, private industry can seek licenses to harvest timber on public lands. Once approved, the harvesting is subject to an annual allowable cut (AAC)—the amount of timber that can be harvested each year—set by a Province's Chief Forester. Most Canadian forest harvesting occurs on public lands.

Canada, wood pellets, and the EU

In the early 2010s, wood pellets emerged as a significant Canadian forest product export. This followed the EU adopting the Renewable Energy Directive in 2009 that incentivized burning biomass, such as wood pellets, for energy. Canada—and the United States—reacted by augmenting production and exports of wood pellets to several EU members.

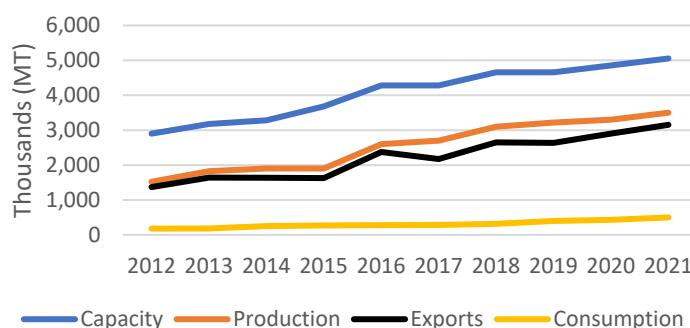
Canada's wood pellet exports

Canadian wood pellet capacity, production, and exports have

continued increasing in recent years (figure 1). According to USDA, Canada exported approximately 90 percent of its wood pellets in 2021. Between 2012 and 2022, Canada's wood pellet exports increased 150 percent from 1.4 million to 3.5 million mt. Canada's share of global wood pellet exports was 19 percent in 2022 (the United States is the largest exporter: 9.0 million mt or 48 percent of the global total in 2022).

In 2012, Canadian wood pellet exports went predominantly to the EU: 58 percent went to the UK, 26 percent went to the EU ex-UK, and only 8 percent went to Japan and South Korea combined. Several policy incentives, however, aided a shift to Asia. Under Japan's 2012 Feed-In Tariff Scheme, all electricity generated by renewable energy (including biomass) is purchased at above market rates, incentivizing more demand. South Korea's 2012 Renewable Portfolio Standard required power companies with installed capacity of over 500 megawatts (MW) to generate a minimum percentage of gross power generation from renewable energy (including biomass), which also incentivized higher demand.

Figure 1: Canada Wood Pellet Capacity, Production, Exports, and Consumption
Source: USDA (2023)

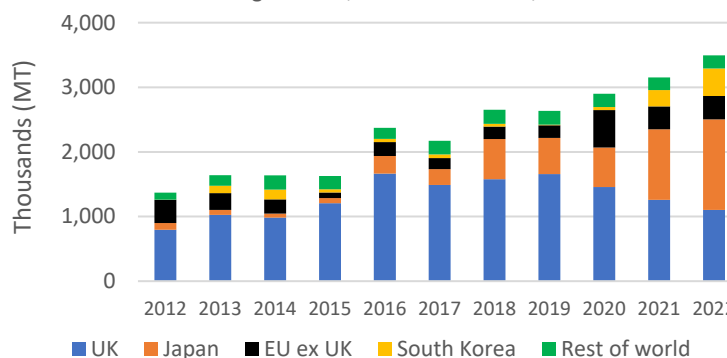


¹ This EBOT does not discuss heating pellets (which are used in residential and other small scale heating applications).

In 2022, Japan surpassed the UK to become the largest importer (1.4 million mt) of Canadian wood pellets (figure 2). Canadian wood pellet exports to South Korea are also rising rapidly, reaching 426 thousand mt in 2022 (more than 200 times the 2012 total). In 2022, Japan and South Korea combined accounted for 52 percent of Canadian wood pellet exports while the UK dropped to 32 percent. The Asia shift has also been aided by geography and shipping advantages: British Columbia (BC), nearer Asia than Europe, is Canada's dominant wood pellet region, holding nearly 50 percent of production capacity.

Figure 2: Canada Wood Pellet Exports, By Destination

Source: S&P Global, Global Trade Atlas database, HTS subheading 4401.31, accessed March 8, 2023.



BC's AAC Credit Program

Canada's tree supply for its growing wood pellet production has reportedly been supplemented by a BC credit program that raises the allowable timber cut above the AAC threshold. A 2021 BC government report stated that "B.C.'s interior, cut control 'crediting' has been used for years to encourage the salvage of lower-quality fibre by not attributing for that harvesting to a tenure holder's AAC." Although the total volume of Canadian timber cut under the credit program appears to be unknown, a 2017 BC Chief Forester report declared that over a 5-year period in the BC Prince George area, an additional 2.4 million cubic meters of timber were cut under the credit program. In the report, BC's Chief Forester and Assistant Deputy Minister, stated that the credit program is an "important tool that supports the continued operation of chipping plants and pellet facilities in the Prince George TSA [timber supply area]." These programs have likely led—and will continue to lead—to increased future Canadian supply.

UK ownership of Canada's wood pellet production and exports

Canadian wood pellet production and exports are increasingly dominated by Drax, a UK utility based in North Yorkshire, England. As the largest corporate consumer of wood pellets worldwide—used in its electricity plants—Drax has also become a substantial producer, especially in Canada (Drax also owns and operates several U.S. wood pellet plants). In April 2021, Drax acquired Canada's largest wood pellet producer, Pinnacle Renewable Energy (based in BC) and has made additional acquisitions in Canada. Drax has thus reportedly become the largest wood pellet producer in Canada. Drax's Canadian wood pellet exports are not, however, just for its facilities in the UK: Drax also exports wood pellets to Japan and South Korea. Drax's dual role as world's largest consumer and producer of wood pellets suggests long-term commitment to rising Canadian output.

Sources: BC, "[Modernizing Forest Policy](#)," 2021; BC Chief Forester, "[Prince George Timber Supply Area](#)," 2017; Connolly et al., "[Energy Giant](#)," February 16, 2022; Drax, "[Former Chief Forester and Leading Canadian Forestry Expert Joins Drax](#)," April 5, 2022; Drax, "[Contracts](#)," December 14, 2021; Hodgson, "[Climate Change and the Battle for Canada's Forests](#)," January 1, 2022; Ireland, "[The Rise of Utility Wood Pellet Energy in the Era of Climate Change](#)," 2022; Malcolm, "[Forest Harvesting and the Carbon Debt in Boreal East-Central Canada](#)," 2020; Natural Resources Canada, "[The State of Canada's Forests](#)," 2022; Parfitt, "[The Great Tree](#)," December 2, 2021; Simard et al., "[Harvest Intensity Effects on Carbon Stocks and Biodiversity](#)," July 2020; UK House of Commons Environmental Audit Committee, "[Oral Evidence - Sustainable Timber and Deforestation](#)," HC637, 2022; USDA, "[Canada Wood Pellet Annual](#)," January 11, 2023; Vancouver Sun, "[U.K. Power Producer Increases Stake in B.C. Wood-Pellet Industry](#)," August 4, 2022.

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